WORKING PAPER
ALFRED P. SLOAN SCHOOL OF MANAGEMENT

A Multi-dimensional Approach to the Study of
Health Care Organizations:
Implications for Improving Client Orientation
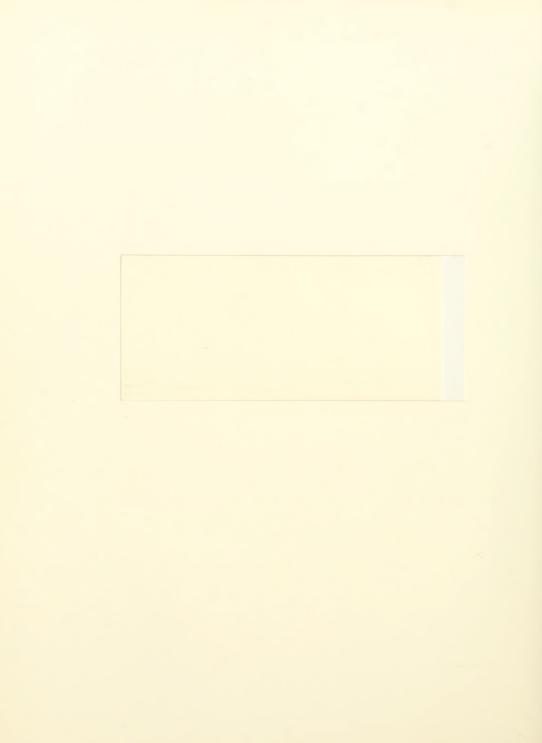
by

Reuben T. Harris

WP. 791-75   June, 1975

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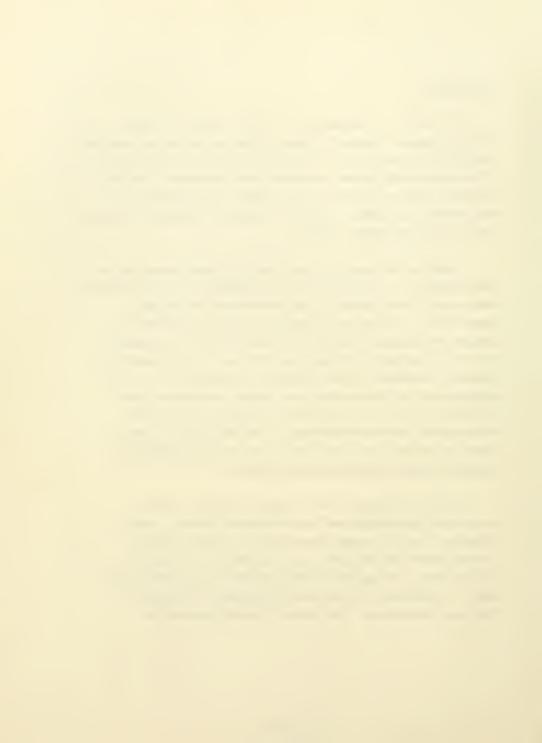
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Introduction

The purpose of this paper is two fold. First, it is our intent to present a number of ideas, in what we feel is an integrated theoretical framework, aimed at shedding some light on the nature of the relationship between the health care organization and the patients it serves. Second, we will discuss the implications of this "model" and suggest a research strategy for empirically testing the ideas and hypotheses presented.

Concerning the nature of health care organizations and patient relationships, it is our view that these issues and related problems have generally been ignored in the literature on health care organizations. Exposes of inadequate or inhumane treatement of patients are numerous, but they contribute little to a systematic, scientific treatment of the problems involved. Still, there is an increasing awareness, in the literature on organizations, of the importance of the client's role in a service institution. Some of these studies will be referenced in the body of this paper. One especially notable contribution is the collection of essays edited by Rosengren and Lefton (1970) entitled Organizations and Clients: Essays in the Sociology of Service.

Overall, our review of the relevant literature, both on health-care organizations and organizations in general, leads us to believe that the present discussion will address issues of current theoretical interest, in an area where too little work has been done. We hope this becomes apparent in the course of the paper. In addition, the practical implications of research in this area seem obvious. The quality of health-care and new

proposals for health-care delivery and financing are issues of major concern to government policymakers and the society as a whole. Accordingly, the relevance of this discussion and it's implications for future research to the formulation of both public policy and organizational change strategies have been major factors in guiding the development of our thinking.

Basically, we will be trying to answer the question; What types of health-care organizations are best at monitoring and responding to the patient environment? The recent organization literature emphasized the importance of effectively monitoring relevant environments (i.e., Thompson, 1967; Lawrence and Lorsch, 1969). This is particularly true for organizations facing dynamic, rapidly changing environments. That the demands and needs of the patient populations confronting health-care organizations are undergoing rapid and significant change is clear. Somers (1971) does an excellent job of documenting these changes. The demographic profile of the patient population is changing and demand for health-care services is shifting accordingly. Changing attitudes toward health and health-care and more widely available financial support for medical care are contributing to the demand for "better" and "more personalized" health-care delivery. Further, the prospect of a national health insurance program threatens to accelerate the pace of change. All of these factors indicate that effective monitoring of patient populations will become increasingly important to health-care organizations.

As a general framework for viewing organizations, we have adopted a perspective suggested by Leavitt (1965). He suggests that organizations be viewed as complex systems characterized by four interacting classes of variables; task, technology, structure, and people variables. This framework may beuseful to the reader in

organizing the material in this paper. The immediately following
section of this paper will develop the notion of an organization's
client orientation, that is, the range of its interest in its
clients. The analysis is partially based on a conceptual framework
developed by Lefton and Rosengren (1966). We argue there that
client orientation is dierctly related to the organization's
perception of its primary tasks. The following sections will consider,
in turn, the relationships between client orientation and selected
variables from the structure and people categories of variables. The
paper will conclude with a discussion of a suggested methodology
which might be employed to test our model and a review of possible
implications of such a research effort.

Client Orientation

The rationale for choosing the concept of client orientation
as the focal element of this discussion has been alluded to in our
introductory discussion. The relative neglect of the role of client
in the study of organizations coupled with the importance of the
cleint to the existance and survival of most organizations suggests
the potential value of such a perspective. Basically, it is our
feeling that the manner in which an organization views its clients
will be directly related to the manner in which activities are
carried out in that organization. This is felt to be especially
true for health-care organizations. An awareness of this relationship
is reflected in several sources from the literature on organizations.
Parsons (1960) points out that hospitals belong to a class of
organizations, along with schools and universities, that are
required to make the client an operative member of the organization,
in order to provide their service . Perrow notes that the primary

task of hospitals is "to alter the state of <u>human</u> material" (1965, p. 914, italics in original). Both authors suggest that these characteristics have a tremendous impact on the structure and functioning of the service-producing organization. Blau and Scott (1962) assert that organizations will reflect the characteristics of the public they serve. The organization's client orientation certainly plays a major role in defining which client characteristics are considered relevant, and therefore which will be taken into account in the process of organizing. Etzioni (1964) argues the salience of an organization's definition of the public it serves (client orientation) to the choice of the control mechanisms which it adopts. Further, Lefton and Rosengren (1966) argue the relevance of client orientation in defining the organizational problems of securing client compliance, obtaining staff consensus, and collaboration with other organizations. Presumably, the organizational solutions to these problems reflect the variance in their definitions.

As was mentioned earlier, our definition of client orientation is based on the conceptual framework developed by Lefton and Rosengren (1966) and later further elaborated by Lefton (1970). Essentially, they offer a perspective for analyzing organizations that aim to take into account the fact that "organizations have constrasting interest in their clients" (1966, p.805). They argue that an organization's interest in its clients may vary independently along two major dimensions. First, the organization's concern may vary along a time dimension, from very short time periods (as in a hospital emergency room) to very long spans of time (as in a long-term mental institution). Second, the organization's interest may vary along a dimension of "biographical space". That is, organizations may be
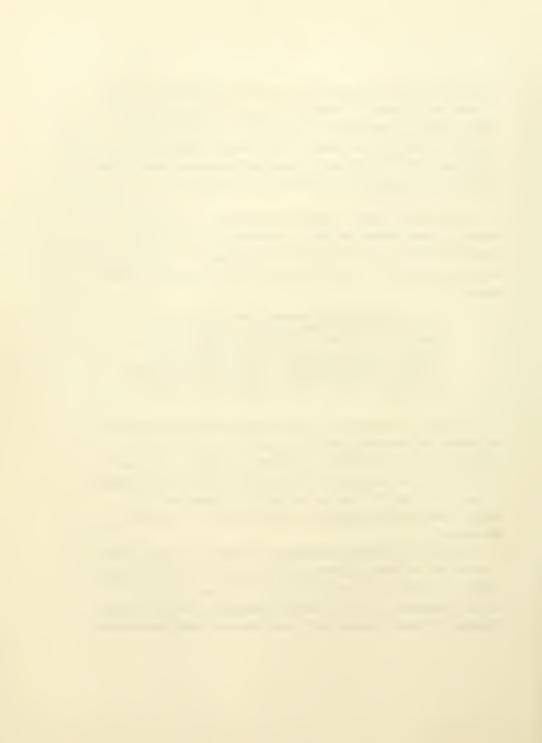
interested only in a narrow range of client properties (i.e., his illness, as in a medical outpatient clinic), or they may have a broader interest extending to many aspects of the client (i.e., childhood experiences and present social relationships, as in a psychiatric outpatient clinic). Lefton and Rosengren refer to these dimensions as longitudinal and lateral, respectively.

Lefton (1970) offers a further refinement of the notion of "laterality and longitudinality" as organizational orientations towards clients. He introduces the two constructs - "plus-laterality" and minus-laterality". As definitions for these constructs, Lefton states:

> "... plus-laterality expresses the extent to which a client-serving organization takes the 'whole' person into account in its efforts to effect given social, psychological or physical changes. Its converse, minus-laterality, describes a purposively restricted focus on specific or segmented features of clients" (1970, p. 19-20, emphasis in original).

It should be noted that in characterizing organizations using the Lefton and Rosengren perspective, that the two dimensions, laterality and longitudinality, represent continuum. In the case of laterality, the constructs of plus-and-minus laterality represent the polar extremes of a continuous laterality dimension. In a similar fashion lingitudinality is characterized as a continuous dimension.

Utilizing the Lefton and Rosengren framework we can now offer a definition of client orientation as it applies to our use in this paper. The focus of our discussion will be primarily on the lateral dimension. It is our apriori expectation that the lateral dimension of client interest will prove the more useful and valuable
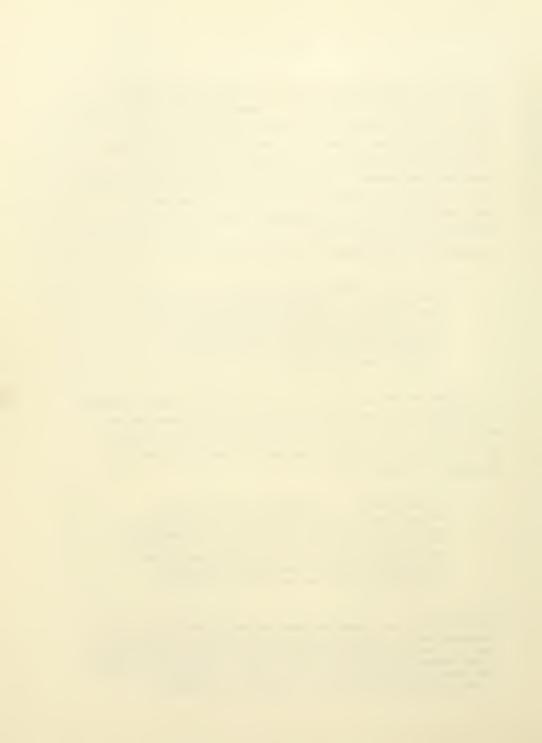
of the two in explaining our research results.[1] As our primary
concern will be examining behavior in those health care organizations
which provide the vast majority of health care services, namely
general hospitals and clinics, it is expected that variance along
the longitudinal dimension will be generally minimal. On the
other hand, the degree of variance along the lateral dimension across
these organizations is expected to be potentially substantial.
Some justification for such an assumption can be found by
introducing the concept of social role as it related to organization
and behavior in organizations. As Katz and Kahn state:

> "The organization neither requires nor wants the
> whole person ... The organizational role stipulates
> behaviors which imply only a "psychological slice'
> of the person, yet people are not recruited to
> organizational on this basis; willy-nilly the
> organization brings within its boundaries the
> entire person" (1970, p.50).

As Katz and Kahn point out, when the individual becomes a member
of an organizational he brings with him his entire personality and
self. This is just as true for the patient entering the hospital
as it is to the factory worker punching his time card at the start
of his day. As Lefton puts it:

> "(the patient) .... brings his 'personal system'
> a configuration of psychophysical and psychosocial
> attributes, his ideational system, and his personality.
> The person in the world of the hospital is a patient.
> For him there is no prescribed role to assume, but
> into this he injects his own style, strengths and
> weaknesses, and his own complicating potential"
> (1970, p. 22).

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[1] The validity of our assumption about the usefullness of the lateral
dimension over the longitudinal dimension should be subjected to an
empirical test as part of any field research effort. It is hoped that
future research results will provide insights concerning the relative
usefulness of the two dimensions - laterality and longitudinality -
in understanding and explaining organizational processes.

It is felt that health-care organizations will be differentially aware of and responsive to different portions of the patient's "personal system". The degree to which the health-care organization recognizes that in the person of the patient it has brought within its boundaries a "total" person and the extent to which the organization is responsive to the total person will reflect the client orientation of that health-care organization. Thus, for purposes of this paper we will define client orientation as follows:
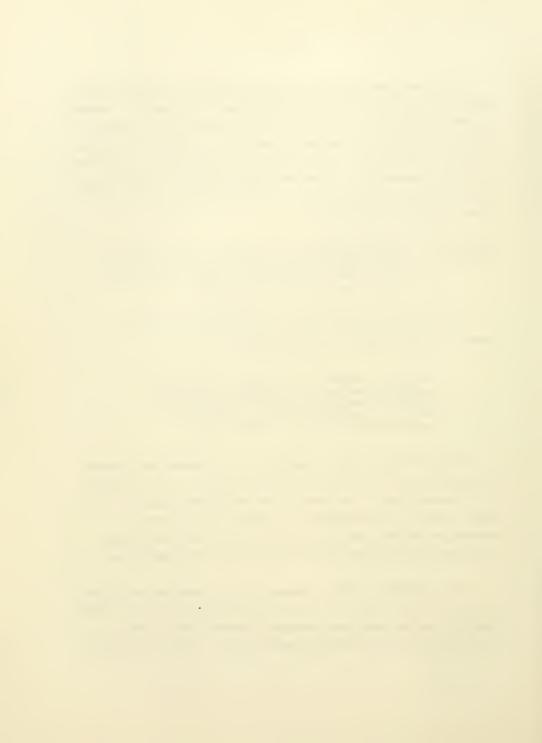
Definition: Client Orientation - the extent to which there is an awareness of, a concern for, and and responsiveness to the client (patient) as a 'whole' person on the part of the health-care organization.

This definition places an implicit emphasis on the reaction potential of the client. As Lefton asserts:

> "As a 'role occupant' the patient is automatically assigned a position in a existing role set by criteria largely beyond his control. He may or may not be prepared, or able, to accept all implications of this role" (1970, p. 22)

The implications of this 'mismatch' of role expectations between the organization and the client are rather obvious. As in indicated in the introduction to this paper, it is the apparent failure on the part of health-care organizations to realize that this reactive potential of patients exists which leads to the claims and charges of de-humanizing treatment leveled against the health-care system.

Up to this point we have discussed client orientation in relation to an organizational level of analysis. Such a perspective is probably reasonable but may lead to an incomplete picture of how a given organizational client orientation comes to exist. When an indivivual

client enters the health-care organization he is to a greater or lesser
extent confronted by a complex, inter-dependent set of systems which
have the ambiguous tasks to serve that individual client. To some
extent the patient is probably aware of and affected by the 'larger
organization'. However, the most significant impact of the health-
care organization on the patient is made by a few specific individual
staff members, e.g., his doctor, the ward nurses, the ward orderly.
Thus, from the patient's point of view the organization's client
orientation is essentially experienced through the patient's inter-
action with specific, significant health-care staff personnel.

On the staff side of the coin the situation is somewhat more
complex. Like the client, the health-care staff member in becoming
a member of the organization is expected to assume a specific role.
Also like the client, the staff member brings to the organization
his own "personal system". And like the client, the 'match' between
role expectations and the individual's total self are sometimes
incompatible. The individual staff member's client orientation
is a function of several factors. First, as mentioned, the staff
member has his own personal orientation to the client. However,
in addition there are other influences on the staff member's
orientation to the patient. Other staff members in the health-care
organization attempt to influence various behaviors of the
individual staff member. This is especially true for members
in subordinate roles. Superiors, by virtue of either status or
authority, often attempt to prescribe behavioral expectations for
subordinates. Peers, by virtue of referent power, may attempt to
make similar demands. Finally, the individual staff member must
act within certain structural configurations. These structural
arrangements which define the organization can also influence the

manner in which the staff member relates to the client. Thus, the individual staff member has multiple sources influencing the manner in which he relates to the client.

To return to the notion of organizational client orientation we can see that the issue is not trivial. On the one hand, the individual client experiences a relationship or set of relationships with various staff members and perceives a specific "client orientation" derived from the aggregate experience with a unique portion of the organization. The staff member also experiences a portion of the organization's client orientation through his interaction with other staff members. Additionally the staff member effects the organization's client orientation by injecting a part of his "self" into the way he related to clients. Although we have not mentioned it before, it should also be pointed out that the client also affects the organization's client organization. As we have pointed out, the client is generally in an interpersonal relationship within a subset of health-care organization's staff and as in any interpersonal situation the behavior of the participants is reactive. That is, the way in which the patient behaves affects the way the staff behaves toward him and vice versa.
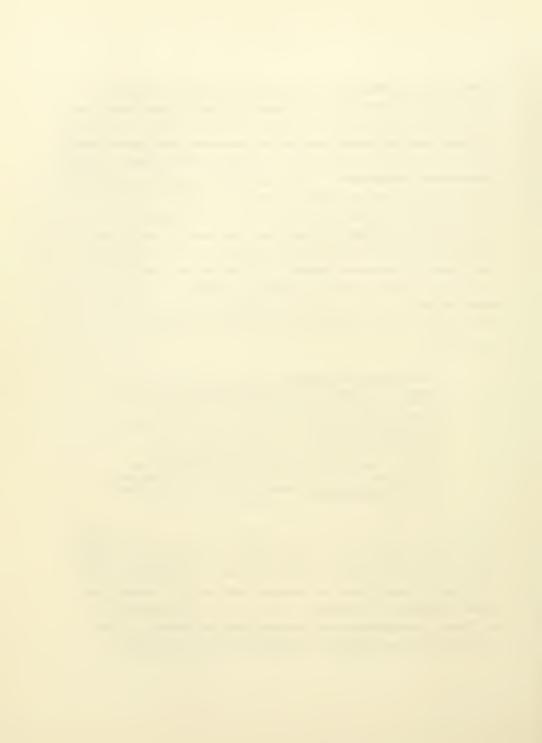
The issues raised in the immediately preceding discussion are not intended to be dealt with directly in this paper. They were included to give some indication of the complexity of the focal concept of this discussion-client orientation. Rather we shall now turn our attention to the development of operational definitions and potential measures of the concept.

Remembering our definition of client orientation as the extent to
which there is an awareness of, a concern for, and a responsiveness to
the client as a whole person on the part of the health-care organization,
a relevant question becomes how does the health-care organization become
aware of the client's 'total needs'? One rather obvious answer is through
interpersonal communication. Through exchange of information the health-
care organization and the client can discover the client's needs
and develop means of dealing with those needs. Unfortunately, the
free exchange of information between the client and the health-care
organization is not as easy as might be expected. To a large extent
the exchange of information between the client and the organization
tend to be distinctly specified. Relevant information is generally
predetermined by the health-care organization. Lefton cites Pine
and Levinson's (1961) description of the medical perspective of
the patient"

> "The hospitalized patient has been conceived of as a
> 'case' of a given type of illness treated by the doctor
> within a supporting hospital facility. In this
> conception the crucial features of the patient are
> his 'signs and symptoms' and their origins in a central
> pathological process; the crucial feature of his
> hospital environment is the definitive treatment
> (shock, drugs, psychotherapy, or the like) it gives
> the patient; and the crucial features of his response
> is his clinical course toward (or away from) elimination
> of pathology" (1970, p. 23, emphasis in original).

Such a view of the patient will lead to identification of and interest
in only a small portion of the characteristics of the patient. This is
not to argue that concern with disease symptoms is inappropriate. In
fact, such a concern should have primary consideration. However, the
narrow perspective of the patient is the issue. As Lefton points
out "such a conception not only depersonalizes the patient, it also
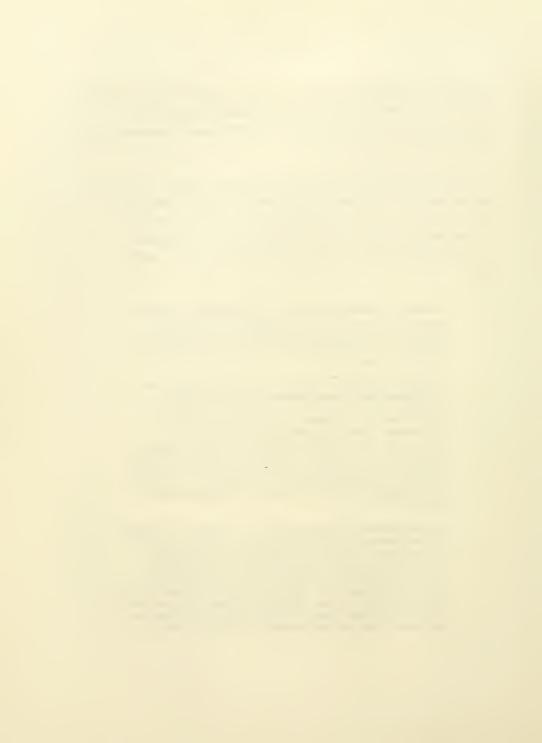over-simplifies the influence of variables not always relevant to

diagnosis and treatment." (1970, p. 23-24). Rather than an exclusive concern for information on the symptom-treatment-response, an additional concern for information on "extra-disease" characteristics would seem appropriate.

Lefton suggests that there are three major classes or types of patient-characteristics which should be of concern to the health-care organization - (1) Qualifying (primary) Characteristics, (2) Related (secondary) Characteristics, and (3) Extraneous or Extra-Disease Characteristics. Of there three types Lefton says:

> "(Primary Characteristics) ... are specific patient properties thought to be necessary and sufficient grounds for admission to hospital, i.e., explicit disgnostic and symptomatic categories stemming from defined causal roots.
>
> "(Related Characteristics) ... refer to properties of patients which are related to a qualifying category in such a way as to affect the course and outcome of treatment, e.g., age, sex, previous illnesses. These are generally treated on an equal basis with Qualifying factors. Their impact exacerbates the Primary condition or limits treatment options. But they are normally perceived as crucial to primary goal attainment and as such are a source of increased laterality at least on a physiological level.
>
> (Extra-Disease Characteristics) ... affect the capacity of the patient to utilize hospital services because of ignorance, cultural traditions, psychological dispositions or other impediments. These may block or delay admission, retard or inhibit cooperation while in hospital, or initiate the benefits of hospitalization later. But while these characteristics may be objectively quite relevant they are often not do treated for various reasons." (1970, p. 24).

Three types of client characteristics can be viewed as types
or categories of potentially relevant information about the client.
In reference to organizational client orientation, an awareness by
the health-care organization that all three categories of client
characteristics are potentially relevant begins to approach a broad
client orientation. Basically, these categories describe the scope
of client orientation within the health-care system. That is,
the health-care system can have a range of interest in client charac-
teristics which extends from an interest in only "Qualifying" and a
limited set of "Related" factors to an interest in all potentially
relevant client-related factors. It is the identification and
designation of potentially relevant client characteristics which
is the essence of the client orientation concept.

Returning to our earlier discussion of information exchange
as an operational definition of client orientation we can argue
that the type of information about the client that the organization
possesses and utilizes is indicative of its organizational client
orientation. The types or categories of information which the
organization collects, the emphasis which the organization places
on the importance of the various types of information, and the
extent of knowledge on each category of information are directly
related to client orientation. Thus, we suggest the following
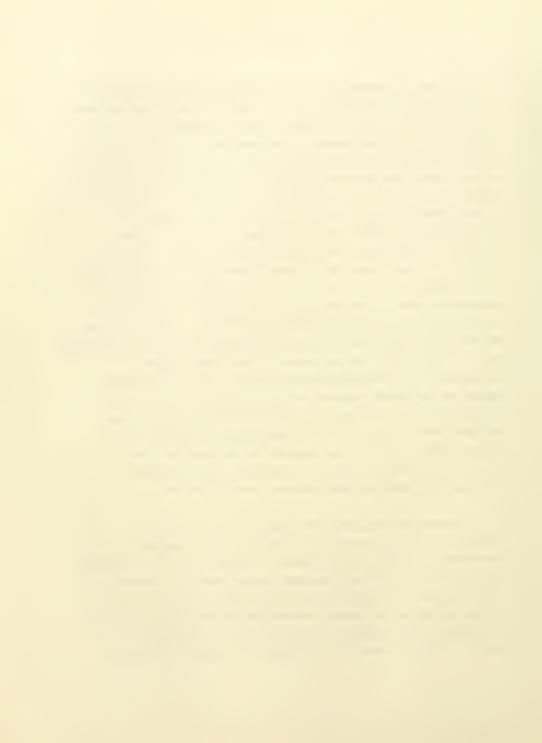as an operational definition of client orientation:

Operational   Client Orientation: the extent to which the
Definition   organization possesses information about its
                     client. This includes types of information,
                     relative value of the various types of
                     information as evaluated by the organization,
                     the absolute depth of knowledge in reference
                     to each category, and the extent to which
                     this information is taken into account in
                     "treating" the client.

This use of information as an operationalization of the complex concept of client orientation is rather simplistic but strong arguments can be made for its use. As we have already discussed the client orientation of an organization is a function of a multitude of factors. By using information possessed by the organization about its clients we will have an indication of the product or net result of all those factors which effect client orientation. The types of information a staff member possesses about a client will be an indication of his interests or concerns about the patient as a result of those factors -- organizational and personal operating on him. It is the constraint or facilitation which these factors provide which determine client orientation. Thus, in the use of information possessed by the organization about clients we have a potentially valid individual-based measure of organizational client orientation. In fact, we have an individual measure and an organizational measure of client orientation, both of which account for the dynamics of the organizational environment. The individual measure includes those organizational factors of colleagial influence, organizational structure, resource availability, etc. The aggregate of the individual measures also reflects those influences of the organizational environment as well as the effect of the "personal systems" of the individual staff members. We propose the use of the aggregate of the individual measures as a measure of organizational client organization.

By specifying explicitly the factors which will be used as indicators of client orientation, a few words about some potential confounding variables should be made. It should be noted that several factors may influence the information deemed relevant in reference to a given patient. Obviously, the disease/illness of the patient is a primary determinant of the way in which the health care system relates to a patient. The severity of the sickness, e.g., the degree to which it is life-threatening, will affect the types of information

identified as relevant by the health-care system. In a research effort, this problem can be confronted by controlling for the effect of disease category through sample selection matched on 'department/task' across organizations or through specifically measuring the disease/illness experience of subjects and treating it as an indepedent variable in analysis.

An additional confounder is the role of the organizational staff member. It is expected that different roles, e.g., doctors, nurses, social workers, will have interests in different aspects of client biographies. This differnetial interest will be reflected in the types of information which different roles possess within the organization. To a significant extent this differentiation of interest in client characteristics is reasonable given the training and task differentials which exist between roles. However to the extent that differentiation of role leads to little or no overlap in the areas of interests and information possessed about the client, then role distinctions become relevant to client orientation and a potential confounder. Thus, in the research effort it is necessary to identify role distinctions and to identify the extent to which different roles are involved with clients. It should be realized that the mere presence of specific roles within an organization is not indicative of the degree of interaction between occupants of that role and the clients. Thus, an additional method designed to determine the extent to which role distinctions affect the indicators of client orientation might be to ask respondents to base their evaluations on their knowledge about the typical patient served within their organization or organization subsystem. Such an approach of attempting to get subjects to anchor evaluations on a "typical patient" is felt to contribute to a more accurate estimation of the overall client orientation experienced by the patient.

It provides a simplistic control for those situations in which certain roles tend to be signficantly involved in only special cases.

A final class of confounding variables is the characteristics of the client. We will only mention this potential "confounder" at this point as we will discuss this class of variables in more detail in a later section of this paper. It should be pointed out that while we have suggested that the characteristics of the client are a confounder of client orientation it would probably be more accurate to call it a causal factor of client orientation. In fact, an integral part of the theoretical model under discussion involves the relationship between client characteristics and organiza- tional client orientation. Though we have identified a few potential "confounders" of organizational client orientation, there are probably other potential confounders we have failed to specify.[2]

Turning our attention back to the measurement of client orientation, we can now discuss specific measures which might be used. It will be recalled that our operational definition of client orientation involved several factors. Specifically, the type or category of information possessed, the relative importance of each category of information, the depth of knowledge on each information category, and the relevance of the information to treatment of the patient were identified. The measure of the

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[2]Those 'confounders' we have identified and discussed can be viewed as "main effects". There are also the obvious "interaction effects" which we have neglected to mention. Control for interaction effects can be made using statistical procedures in the analysis of research data.

types or categories of information which the organization possesses
in reference to its clients, which we shall call 'variety of
information' is a straightforward operationalization of the range
of awareness of and concern for the client. The measure of relative
importance of the various categories of information, which will be
called 'importance of information', is an operationalization of the
degree to which the organization is willing to be responsive to the
"total" patient. It is felt that the more emphasis the organization
places on certain categories of information relative to other
categories of information is an indicator of those categories which
the organization will respond to and those which the organization will
tend to neglect. The measure of depth of knowledge on each category
of information, which will be called 'depth of information', is
expected to provide a description of the awareness on the part
of the organization of the total client. The relavance of the
information to the treatment of the client measure, called 'relevance
of information', is an absolute measure of the importance of each
category of information. Whether this measure is indicative of the
actual application or utilization of knowledge about a given category
of information in responding to the client is still problematic. Thus,
we propose to further measure -- the extent to which each category is
used in determining the treatment of the patient, called 'application
of information'. This measure will be more indicative of actual
behavior as it relates to information about the patient. It will
take into account constraints on the individual staff member to relate
to and deal with the client in certain ways. A final measure in
reference to information about the client will deal with determining
the sources of information. It is felt that information about the
client can be gathered from a multitude of sources, e.g., clients,
records, other staff members. It is further felt that the source of
information as it moves away from the client himself involves the
distortion and filtering of information and hence affects the manner

in which the organization deals with the patient.

Before ending the discussion on client orientation, it may be helpful to summarize the major points of this section. The focal element of this reserach -- client orientation -- has been introduced. We have defined client orientation as the extent to which there is an awareness of, a concern for, and a responsiveness to the client (patient) as a 'whole' person on the part of the health-care organization. It is pointed out that client orientation is a complex concept and has roots in both organizational and individual processes. Similarly we have argued that client orientation has implications to both the client and the organizations. In an attempt to get a better handle on this concept we suggested an operational definition based in the information/knowledge about the client which the organization possesses. We further specified several dimensions of this informational process which were felt to be valid indicators of client orientation.

Utilizing these operationalizations we will discuss how client orientation is related to several other major characteristics of health care organization. Specifically, we will concern ourselves with the organizational characteristics of technology, level of available resources, organizational structure, and characteristics of the organizational staff personnel as they relate to client orientation. Finally, we will discuss how organizational client orientation is related to the way in which clients perceive and evaluate the health-care organization. The next sections will introduce and discuss the organizational characteristics which will be focused on in this study.

ORGANIZATIONAL STRUCTURE

The concept of organizational structure or degree of bureaucra- tization has been the focus of an enormous amount of research in recent years. Much of this research is based on the assumption or belief, usually implicitly expressed, that the 'structure' of a social system is the primary determinant of the behavior of that system and its sub-systems. This perspective that 'structure' is the primary behavioral antecedent in organizations is apparent in a quote from Hall (1972)

> "Structure is a fact in any organization and is the point
> from which analyses of most facets of organizational life
> must begin. While it is possible to study goals without
> much concern for structure, it would be fruitless to
> examine effectiveness without considering the various
> structural arrangements that might be related to different
> forms of effectiveness." (Hall, 1972; p. 105, emphasis
> added)

The modern theory of organizational structure has grown out of the work of Max Weber. Weber introduced the concept of 'bureaucracy' and discussed the components of bureaucracy in terms of an "ideal type." He described the extreme set of characteristics necessairly present in an organization to cause that organization to be characterized as a 'true bureaucracy.' According to Weber (1946), bureaucracy is a multi-dimensional variable. To Weber, the "ideal type" bureaucracy was the most appropriate means of structuring organization -- it was a 'rational' solution to the complexities of organizational contingencies.

Since Weber's introduction of the "ideal type" bureaucracy,
the emphasis has been on discovering the relationship between
various dimensions of this "bureaucracy" construct and various
facets of organization.[3] Merton (1940), Selznick (1947), and
Gouldner (1954) were concerned with the consequences of bureau-
cratic structure. More recently, the arguments advanced by Weber
have come under harsher attack; Udy (1959), March and Simon (1959),
Burns and Stalker (1961), Likert (1961), Katz and Kahn (1966)
and Thompson (1967). As a result, research on structure in recent
years rather than utilizing the Weberian components as prescriptions
has used it as a classificatory scheme for viewing organization.

Most of the research on structure or bureaucracy has used
the approach of separating the component parts or dimensions. Such
a dimensional approach is especially useful when organizational
structure is treated as an indepedent variable and factors such as
inter-role conflict on interdepartmental relations are handled
as dependent variables. In such cases, breakdown into components
permits more insightful analysis than would be possible if
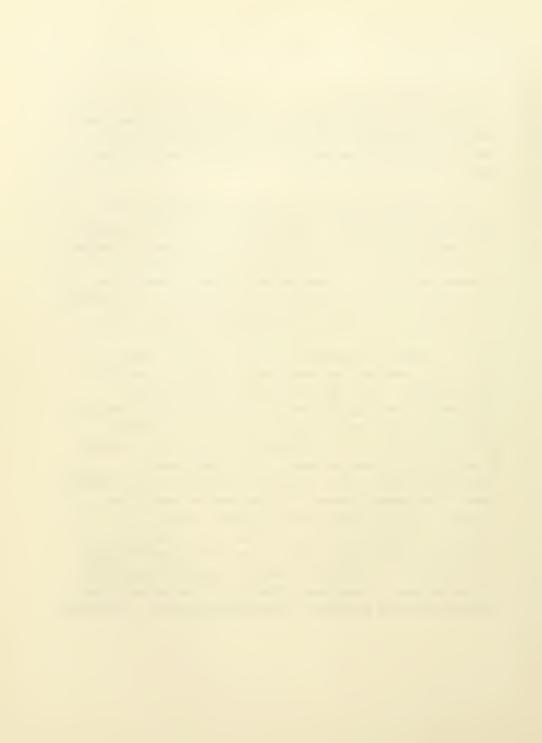bureaucratization were considered a unitary phenomenon.

In this model we will utilize a component or dimensional
approach in specifying the relationship between organizational
structure and client orientation as a function of information flows

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[3]While some would quarrel with the use of "bureaucracy" and "structure"
 interchangeably, it is felt that both concepts speak to the same
 dimensions and thus will be used interchangeably in this paper.

within the health-care organization. Specifically, our concern is in describing the relationships between certain structural dimensions -- complexity, formalization, centralization of authority, and certain aspects of information flow between the organization and its client system.
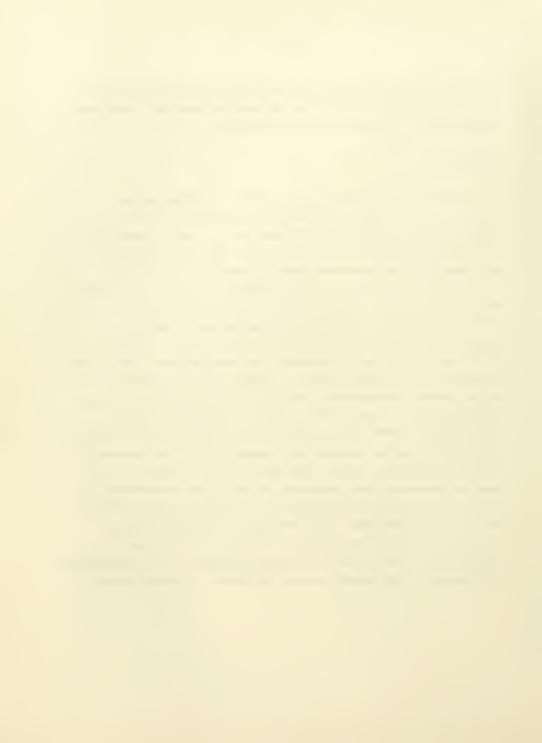
Such a conceptual approach to the study of organizations has been adopted by many writers. Pugh, Hickson, et. al. (1963) propose that organizational structure is comprised into six primary dimensions: (1) specialization, or division of labor, (2) standardization of procedures and rules, (3) formalization specified in terms of how actions are to be performed (written), (4) centralization of authority, (5) configuration, or shape of the organization in terms of span of control, segmentation of tasks, etc., and (6) flexibility, or the amount, speed, and acceleration of rate of change. Hage and Aiken (1967) concentrated on centralization of authority, complexity and formalization. Hall, Haas, and Johnson (1967) examined the relationship between organizational size and the structural dimensions, -- complexity and formalization. Hage (1965) proposed an "axiomatic theory of organization" which suggested that the structural dimensions of organization be viewed as 'means' to the accomplishment of organizational goals or ends. The works cited above are merely a small sample of the numerous research literature based on organizational structure. The mere volume of research developed around the notion that structure as a primary determinant of organizational process lends a great deal of support to the earlier quote from Hall that "structure ..... is the point from which analyses of most facets of organizational life must begin." (Hall, 1972). Having established some support for the examination of structural dimensions of organization,

we can now turn our attention to a discussion of those dimensions or components of structure with which our model is concerned -- complexity, formalization, and centralization of authority.

Complexity

Complexity, like bureaucracy, is itself a multidimensional variable. Its elements are (1) horizontal differentiation, (2) vertical or hierarchical differentiation, and (3) spatial dispersion. Horizontal differentiation refers to the way the tasks performed by the organization are subdivided among its members. There are two basic ways in which tasks can be broken down and assigned. The first way is to give highly trained specialists a rather comprehensive range of activities to perform, and the second is to minutely subdivide the tasks so non-specialists can perform them. A number of different definitions of complexity have been advanced. Hage defines complexity as the "specialization in an organization ... measured by the number of occupational specialities and the length of training required by each." (Hage, 1965; p. 294). In some later research Hage and Aiken (1967a) define complexity in a slightly different manner. They state "we define organizational complexity with three alternative empirical indicators: occupational specialities, the length of training required by each occupation, and the degree of professional activity associated with each occupation." (Hage and Aiken, 1967a; p. 507). Blau and Schoenherr (1971) use still a different definition. Their approach is to view complexity as indicated by the number of different positions or roles and different sub-units in the organization -- with emphasis on the formal structure as defined by the organization.
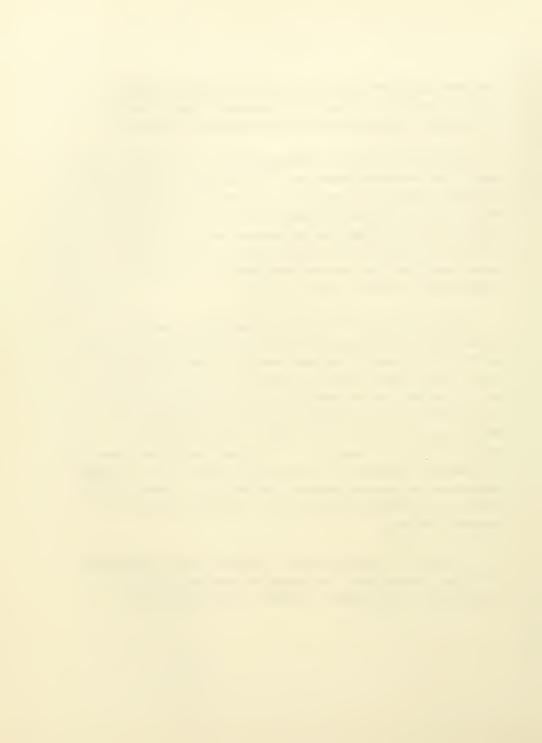
Both these approaches to horizontal differentiation have similar roots -- they are both concerned with division of labor within an organization. Both forms may exist within the same organization.

Vertical or hierarchical differentiation is simply defined as the depth of the hierarchy. Meyer (1968 a; p. 216) used "proliferation of supervisory levels" as his measure of the depth of an organization. Pugh, et. al. (1968) suggests counting the number of job positions between the chief executive and the employees working on output. Hall, et. al. (1967; p. 906) used the "number of levels in the deepest single division" and the "mean number of levels for the organization as a whole" as their indicators.

Spatial dispersion can be a form of horizontal or vertical differentiation. Activities and personnel can be spatially dispersed according to horizontal or vertical functions by the separation of power centers of tasks. Spatial dispersion is a separate element as it is realized that an organization can perform the same function with the same division of labor and hierarchical arrangements in multiple locations. Hall, et. al. (1967) used the following indicators of spatial dispersion: (1) degree to which facilitites were spatially dispersed, (2) the location (distance from organization headquarters) of spatially dispersed facilities, (3) degree to which personnel are dispersed spatially and (4) location of spatially dispersed personnel.

The empirical findings regarding complexity suggests that there are several 'generalizable' conclusions one might make about its relationship to organizational processes. There appears to be

relative agreement that high complexity is associated with high degree
of information exchange. Hage and Aiken (1967b) in their research
of social welfare and health agencies found high complexity associated
with low degree of centralization. Low centralization suggesting
a need for communication and coordination. They also found that
organizational complexity was positively related to the number of
joint programs an organization participated in -- joint program
participation requiring coordination and information exchange
between participants. Further support for this notion is found in
Blau and his associates' work. Blau et. al. (1966) found expert
qualifications of staff were associated with high vertical
differentiation (ratio of managers to total employees). The
explanation offered for this relationship was that experts have
a strong need to communicate information and receive feedback -- they
become alienated by one-sided directives.[4] Later research by
Blau (1968) and Meyer (1968b) lend further support to this notion
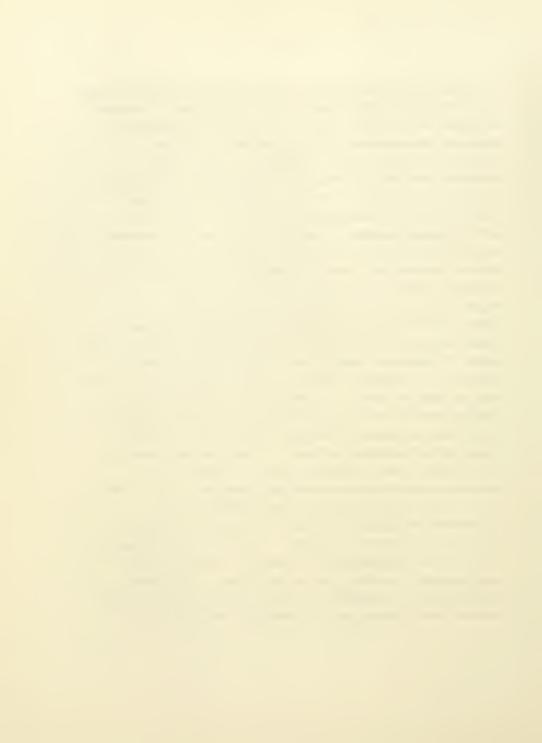that complexity is related to information exchange.

Rosengren (1968) in a study of 76 psychiatric hospitals found
'specialization' inversely related to client orientation. Using
specialization as a surrogate for complexity, Rosengren observes:

> " ... the more encompassing was the concern with the
> client's contemporary life-space, the greater was the
> overlap of task assignments within and across occupational
> lines in the hospitals. Conversely a limited and cir-
> cumscribed interest in the client's contemporary life-
> space was found in hospitals with specialized or bureau-
> cratized divisions of labor" (1968, p. 8).

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[4] Further support for this contention that one-sided information flow
lends to alienation in expert staff is presented by Aiken and Hage
(1966) and Pearlin (1962).

In Rosengren's work the notion of "specialization" is synonomous with strict horizontal differentiation. That is, Rosengren is concerned explicitly with division of tasks. By utilizing such a measure of complexity the conclusions Rosengren reaches are apparently different than those of other researchers. On the one hand Rosengren found that low horizontal differentiation associated with a broad client orientation. On the other hand, Blau and others found low complexity associated with low levels of communication and information exchange. It should be noted that while Rosengren was specifically interested in client orientation that the other authors cited were not. Such an observation does not explain the difference between these findings. However, one probable explanation can be found by looking at the difference in methodologies, specifically the measurement of complexity. As we have already mentioned, Blau and Hage and Aiken measured complexity as the number of occupational specialities or roles without an explicit concern for task behavior. Rosengren defines "specialized" organizations as those in which " ... staff members in each occupational category were held to only a single task with different assignments for all other categories of employees" (1968, p.4). He defines "unspecialized" hospitals as those " ... characterized by multiple and overlapping work assignments within each category, and by assignments cutting across occupational-professional lines" (1968, p.4). Thus we have in one case the more different roles or occupational specialities, the higher the need for coordination, hence the more information exchange. In the other case the more overlap of task assignments the broader the client orientation. It seems reasonable to assume that the more roles or occupational specialities in an organization the more likely there is to be task overlap. Thus a higher need for coordination and communication.

Although the above discussion offers a possible explanation
for reconciling the difference between the findings using different
measures of complexity, we propose utilizing multiple measures of
horizontal differentiation. Both the more traditional sociological
measures as indicated by the number of occupational specialities and
the task responsibility measure used by Rosengren can be employed.

Returning to our original discussion of horizontal differen-
tiation and its relationship to information exchange we can offer
a few hypotheses. Accepting Blau's contention that experts have
a strong need for information and assuming that specialization leads
to differentiation of interests, we hypothesize:

> H_1: The more complex (horizontally differentiated)
> the organization, the more variety of information
> the organization will possess about its client
> system.

It is expected that the more occupational specialities there are
within the organization that as a result of the increasing specializa-
tion that greater differentiation of interests across specialities
will result. Further, this differentiation of interest will result
in more variety of information about the client possessed by the
organization. By information it is meant that knowledge about more
categories of client information will be possessed by the organization.

In the case of differential task responsibility, we hypothesize:

> H_2: The more complex (task responsibility differentiated)
> the organization the less total information the organi-
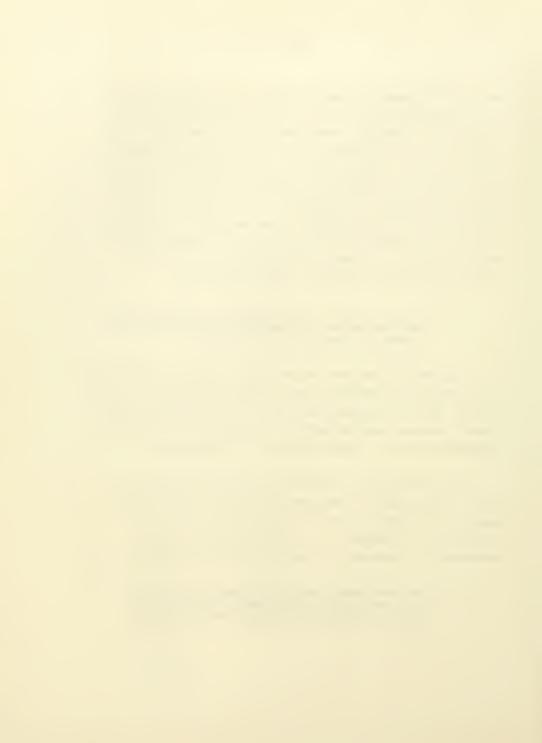> zation will possess about its client system.

When task assignments are differentiated, that is given tasks are
the sole responsibility of one role of speciality group and there
is little or no overlap of task responsibility across roles, it is
expected that the organization will possess less total information
about its clients. In this case total information is a function of
both the number of categories of information about the client for
which the organization has knowledge of and the number of roles
or specialities having knowledge of those categories of information.
It is further expected that differential task responsibility will
affect the depth of knowledge of the information about clients
which the organization possesses. Thus we hypothesize:

> H_3: The more complex (task responsibility differentiated)
> the organization, the less depth of information about
> clients the organization will possess.

It is expected that when task responsibility is strictly differentiated
that concern will be primarily with information pertinent to the task
at hand. Thus it is expected that across roles there will be less
"common" knowledge about the patient in the more task differentiated
organizations that in "undifferentiated" task organizations.

As we noted earlier, complexity is a multi-dimensional con-
cept. Another element of complexity is vertical differentiation.
Again, accepting Blau and Meyer's interpretations that expert
qualifications of personnel are related to a need to exchange
information with superiors, we have the following hypothesis:

> H_4: The more complex (vertical differentiation) the
> organization, the more information the hierarchy
> of the organization will possess about its client
> system.

Formalization

The conceptual basis for formulization is rooted in the
Weberian emphasis on rules and specified procedures as 'rational'
mechanisms to insure predictability of performance in organizations.
The degree of formalization can be viewed as the degree to which
the organization attempts to specify the behaviors of its members.
There are two aspects of the degree of formalization, one is the
degree to job codification, the number of regulations specifying
who is to what, where and when. The other is rule observation, the
diligency in enforcing these rules that specify who is doing what,
where and when.

Operational definitions of this variable has taken several
forms. Hage states:

> "Formalization, or standardization, is measured by the
> proportion of codified job and the range of variation
> that is tolerated within the rules deferring the jobs."
> (Hage, 1965; p. 295)

Hage and Aiken (1967b), in their later research, define formalization
as:

> "Formalization represents the use of rules in an organization.
> Job codification is a measure of how many rules define what the
> occupants of positions are to do, while rule observation
> is a measure of whether or not the rules are employed.   In
> other words, the variable of job codification represents
> the degree to which the job descriptions are specified, and
> the variable, rule observation, refers to the degree to
> which job occupants are supervised in conforming to the
> standards established by job codification. Job
> codification represents the degree of work standardization
> while rule observation is a measure of the latitude of
> behavior that is tolerated from standards." (Hage and
> Aiken, 1967b; p. 79)

Pugh, et. al., define formalization as "the extent to which rules,
procedures, instructions and communications are written." (Pugh
et. al., 1968; p. 75)

Although the definitions offered by the cited authors differ
slightly, it is apparent that there is general consensus about the
meaning of formalization. However, the operationalization of the
concept are significantly different. Hage and Aiken measure
formalization by asking organizational members to respond to a
series of questions related to the issue. Hence their measurement
is based in the organizational member's perceptions of their
organization. These two methods yield different results. Hall
offers a reasonable explanation for the difference of the results
of the two methods. He suggests that the Hage and Aiken measures
are indicative of the organization's actual degree of formalization
while Pugh's measure is descriptive of officially prescribed patterns
of behavior. He further suggests, "... as a general rule, organizations
that are more formalized on paper are more formalized in practice."
(Hall, 1972; p. 176)

Empirical findings relating formalization to other facets of
organization suggests several hypotheses relevant to this research
proposal. Rosengren (1967) in a study of 132 psychiatric hospitals
found that the degree of specificity of tasks was positively related
to reliance of the organization on 'formal' and 'hierarchical' commu-
nication. The relationships Rosengren found are not surprising
as all three dimensions he used are components of formalization.[5]
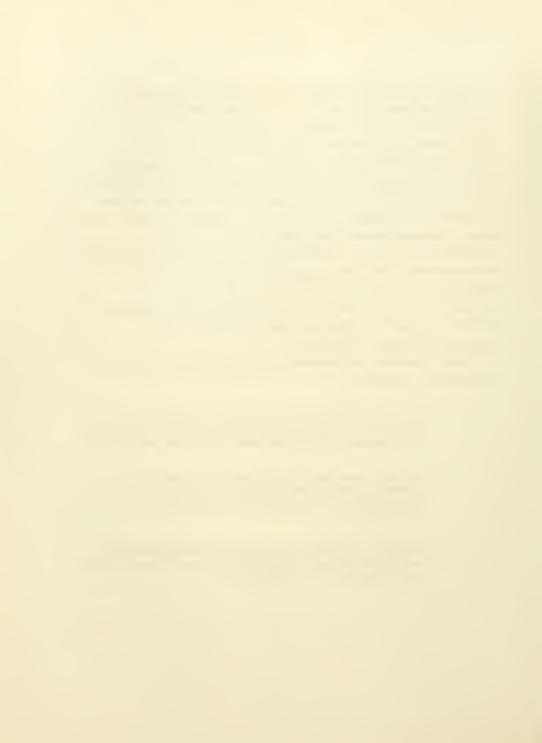
[5]Hall, Hass and Johnson (1967) use five dimensions of formalization of
which three are similar to Rosengren's concepts. They use the following
as indicators of formalization: (1) Roles, the concreteness of positional
descriptions and the presence of written job descriptions, (2) Authority
Relations, the degree of formalization of authority structures and the
codification of authority structure in writing, (3) Communications,
the degree of emphasis on written communications and the emphasis on
using established communication channels, (4) Norms and Sanctions,
the number of written rules and policies, and the penalties for rule
violation clearly stipulated (5) Procedure.

It was also found that in organizations with high task specificity
there was low supervisory control. In low task specificity systems
there was a high level of supervisory control. Rosengren's
finding supports the contention that formalization is an alternate
form of organizational control. However, it has been argued that
formalization can have dysfunctional consequences for the organization.
As mentioned earlier, Merton (1940) argues that formalization leads
to dysfunctional learning -- the consequences being reduction in the
amount of personalization of relationships and an increased
internalization of rules. Selznick (1946) and Gouldner (1954) offer
similar arguments about the consequences of formalization. More
recently, Aiken and Hage (1966) found that the degree of job
codification and rule observation were associated with alienation
from work. A similar finding was reported by Miller (1967)
looking at scientists and engineers.

Having discussed the dimensions of formalization, we suggest
the following hypotheses.

H_5:   The more formalized the organization (emphasis on using
established communications channels) the less information
the hierarchy will possess about the client system.

H_6:   The more formalized the organization (concreteness or
specificity of job descriptions) the less total
information the organization will possess about the
client system.

H_7:   The more formalized the organization (concreteness or
specificity of job descriptions) the more alienated will
be the members of the organization.

The third component of structure of concern in this paper is centralization of authority. Aiken and Hage (1970) refer to centralization as the way in which power is distributed in an organization. Price (1968) defines centralization as the degree to which decision making is concentrated among the members of an organization. Aiken and Hage view the concept of centralization as synonomous with power. They go on to argue that the power and the understanding of the processes of power utilization are critical in understanding organizational behavior. Rather than argue further the merits of examination of centralization of authority, allow us to state that centralization is a potentially useful dimension of structure and has been widely used in previous research.

Throughout this section we have avoided making specific mention of the health care system as the target of this research. It is felt that the topic of organizational structure and its relevance to health care organizational is not a unique research undertaking. It will be noted that a significant portion of the research cited in this section was carried out in health care systems. It is our contention that the structural variables we propose be examined while relatively traditional in the research sense, when viewed as a part of the larger project become a potentially valuable section of the research. This approach of using traditional structural variables in the analysis of health care systems allows the opportunity to compare the findings based on such an approach with previous research using similar constructs. Additionally, it allows the potential to relate those findings on other levels of analysis to this level of analysis, thereby offering the potential for further generalizability.
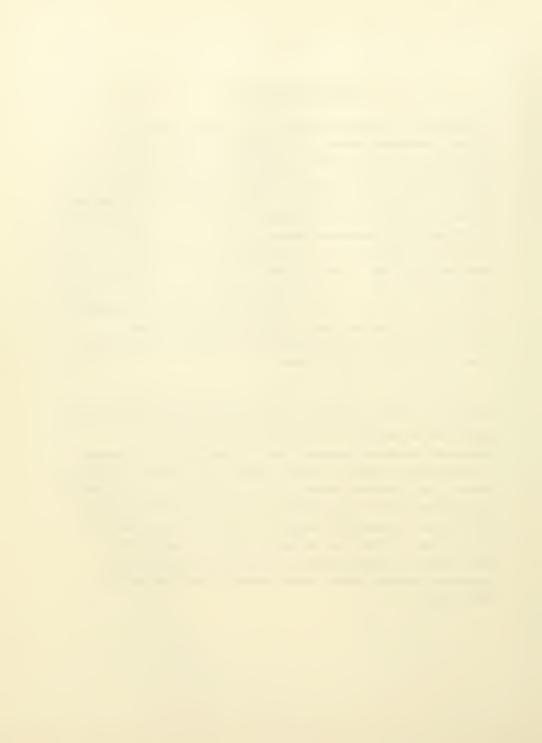
In addition to the scientific knowledge acquisition potential of utilizing structure as a primary variable, the implications to policy of using structure are also important. The structure of an organization is very relevant to organizational change. The implications of structure to organizational change will be discussed later. Now we will turn our attention to another set of variables felt to be relevant to client orientation -- interpersonal variables. The following section will discuss the relevance of individual and/or interpersonal characteristics of health-care system and client interactions.

INTERPERSONAL VARIABLES

Health care organizations must rely upon their clients to provide a substantial portion of the information needed by the organization to meet the medical, psychiatric or other relevant needs of clients. This information input to the organization, as pointed out previously, comes largely through some form of face-to-face interaction between organization members and clients. The transfer of information is a selective process, and the nature of what is selected is an important factor in determining what action an organization can take to meet the needs of a client. For example, health care organizations almost universally require clients to provide personal data through the use of standard forms. A small fraction of the potential information about a client is included in those forms, but persons in the organization who use them can respond only to the data elicited by their format.

The selective reception of information about environmental factors is a necessary attribute of both human beings and organizations. Neither can pay attention to everything in the world. In an organization decisions concerning what information about the clients is relevant must be made and used to fashion the information gathering process. This selective information gathering process has the potential to be dysfunctional; it may systematically exclude information which would be used by organization members to alter their activities if it were available to them. The systematic exclusion of potentially useful information arises because the designers and users of the information gathering process cannot be aware of the total set of useful data.
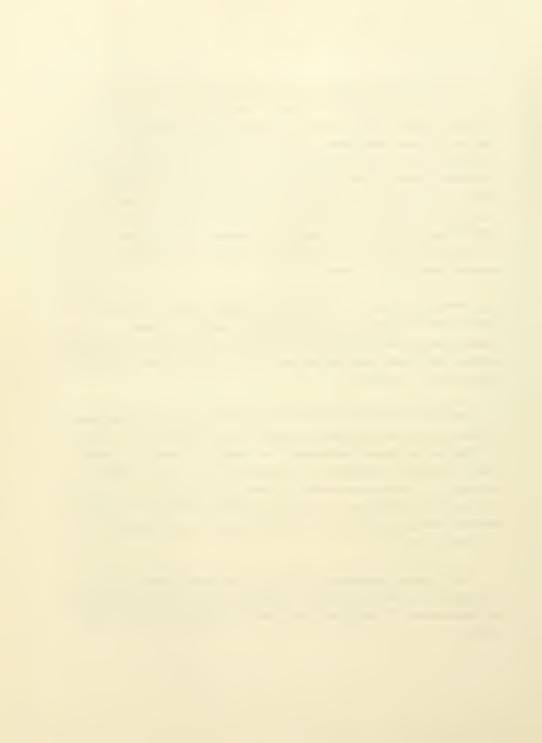
In interactions between an organization member and a client, each party contributes to the selective nature of the information exchange process. The client will choose to reveal some information and not to reveal other data. The organization member usually attempts to elicit certain information, often in accordance with some programmed procedure such as collecting information for a personal data form or through an appropriate physical examination procedure. Little or no attempt will be made to elicit other data. The information received by the organization member is also limited by that person's ability to accurately perceive all information made available by the client.

Pre-planned standard information gathering procedures provide most of the information used by organization members. These standard procedures facilitate the collection of data which organization members have found useful in the past for treating patients, arranging for payment of fees, etc.

Unplanned information collection also takes place in interactions between clients and organization members. This information is a factor in changing the planned procedures. For example, a doctor who notes that his patients sometimes worry unnecessarily about their symptoms may make it a standard procedure to discuss the significance of symptoms when appropriate. If that doctor never became aware that his patients sometimes worried, it is unlikely that he would engage in such procedures.
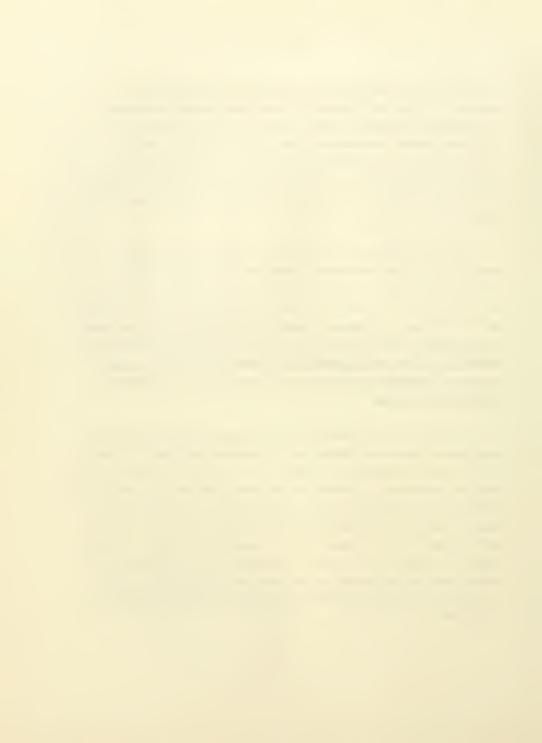
The frequent, unplanned collection of information from clients by organization members provides a sensing capacity for the organization to become aware of information needs that it otherwise would not know existed.

Organizations must respond to this awareness by incorporating attempts to elicit this information into their standard procedures. The unplanned reception of data may also be useful in assisting individual clients even when the data is not relevant to enough clients to merit its systematic collection. In either case the ability of organizations to meet the needs of its clients is enhanced by a capacity for sensing information beyond that which it explicitly seeks.

The conditions which facilitate the collection of information about the client are those which encourage the client to reveal information, enable the organization members to perceive information made available, and result in a common understanding of the information and its relevance. A general hypothesis of the study being discussed in this paper is that the above conditions are fostered by similarity between the client and the organization member with whom the client interacts in demographic characteristics such as race, socioeconomic standing, sex and age.
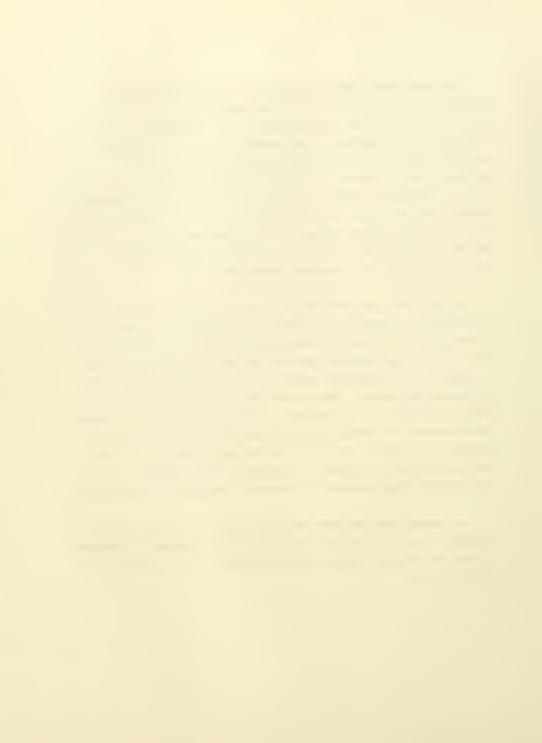
A client will be encouraged to both respond freely to questions asked by an organization member and to volunteer additional information if the client believes he will benefit. The client must believe that the information is relevant to his needs, and that the organization member will be influenced by it. This opinion of the organization member's response to information provided to the member is based, in part, on the client's evaluation of the organization member's attitude toward the client. If the client believes that the organization member likes him and desires to help him, the client is more likely to volunteer information he thinks is relevant than under opposite conditions.

The organization member's readiness to receive information depends upon his evaluation of its instrumentality to him. If he is interested in helping a particular client, any information relevant to the client's situation will be relevant. If the organization member's interest is in meeting role expectations, the same information may be ignored if it is not a part of the set of data the organization member is expected to collect. The organization member's attitude toward helping the client is partly determined by his evaluation of the client. If the client is liked or perceived as worthy of aid, the organization member will be more ready to perceive them than if unfavorable evaluations are made.

In addition to the evaluation of each other made by client and organization member, the transfer of information is influenced by their ability to reach a common understanding of the information. The process of communication requires the sender to put thoughts into a symbolic code of language, gestures, or facial expressions in order to transmit the thought. The receiver must sense the symbolic transmission and decode it into thoughts. The accurate transfer of thoughts from one person to another requires equivalent encoding and decoding processes. In general, the more alike two people are in their use and understanding of language, in attitudes, and in cognitive styles the greater is their capacity for accurately exchanging information.
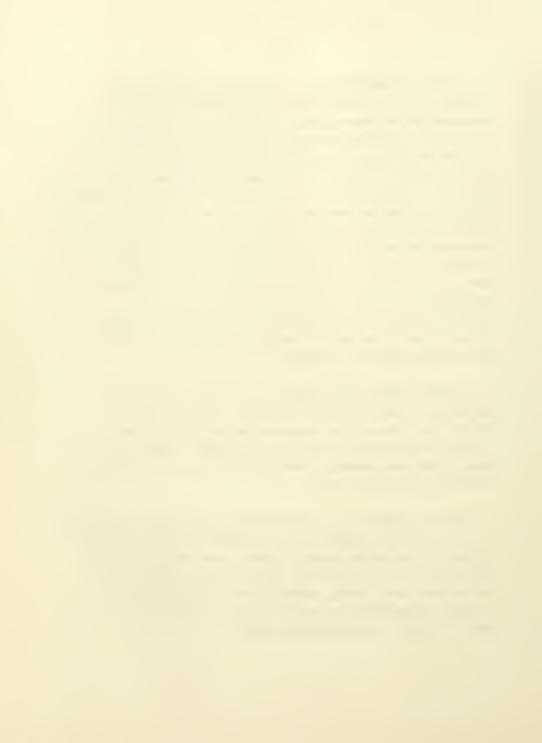
In summary, what has been asserted is that if two people like each other, they will be more highly motivated to exchange information. If they are similar in certain ways the exchange will be made with greater accuracy.

There is a substantial body of theoretical literature and research which supports the contention that there are positive interrelationships between liking, similarity, and motivation to interact. The mutual dependence of interaction and liking, of liking and similarity of activity, and of similarity of activity and interaction are control hypotheses in Homan's (1950) theory of interpersonal behavior. Festinger's (1954) theory of social comparison is likewise consistent with a positive relationship between similarity and liking. A derivation Festinger draws of the underlying hypothesis of a drive for comparison and the need for a referant with similar abilities and opinions is that people find situations in which other people are similar to them in abilities and opinions more attractive than situations where people are divergent from them. The same positive interrelationships between liking, similarity and desire to interact are elements in Heider's (1958) balance theory of interpersonal relationships.

Research support for the relationship between attraction and motivation to interact is found in Schachter's (1951) study of deviation and communication. Communication levels were highest in groups that were most attractive to the members. Reikin and Homans (1954) have reviewed a number of other studies in which this relationship was found to exist.

Research support for the relationship between similarity and liking is found in Newcomb's (1961) study of friendships between roomates. Roomates who were similar generally became friends while dissimilar ones tended not to become friends. That demographic similarities such as race, ethnic origin, occupation, age and sex are related to liking is demonstrated by studies of social distance such as those by Triandis, Davis and Takezawa (1965).

Support for a relationship between similarity and accuracy of
information exchange is found in the contrast and assimilation
effect theory and research (Sherif and Hovland, 1961). Information
perceived as discrepant from that held by the receiver will be
distorted as more discrepant than it really is and be evaluated
as less logical, informed and valuable.

A more recent research effort by Stotland (1969) and his
assoicates has shown that similarity of work and other experiences
shared by persons are positively related to the ability of one to
empathize with the other. Runkel's (1956) finding that similarity
in cognitive styles between students and instructors was positively
related to quiz grades is also relevant here.

This research indicates that in as far as similarity of
experience and cognitive style is engendered by similarity of race,
social class, sex, and age these demographic characteristics should
have productive value for the amount and accuracy of information
exchange.

That social class at least is influential in the selective
process of information reception by health care personnel is
documented by Duff and Hollingshed (1968). They found that the
relationships between patients and both doctors and nurses were
linked to the socioeconomic status of the patient. Doctors and
nurses were aware of the social status of their patients and spent
more time with high status patients. Nurses showed more empathy
for higher status patients and doctors were more deeply committed
to their care. Anecdotal information is presented by Duff and
Hollingshead which indicates that social class was related to the
adequacy of disgnosis and treatment as well as the perception of
emotional states. The relationship of nurses to high status
patients may be interpreted as inconsistent with a theory that
predicts empathy between persons of like standing; however , the

measured differences were not significant and no attempt was made
to control for race or ethnic similarity.

In a study of the relationship between social class and treatment
of mental illness Hollingshead and Redlich (1958) concluded that
value differences between psychiatrists and lower status patients
were an obstacle to effective treatment. This observed inability
of doctor and client to reach equivalent perceptions of a situation
is symptomatic of non-equivalent encoding and decoding procedures
which should be reflected in the type of information the doctor
has about his clients.

Based upon the evidence that similarity between persons
echances the transfer of information we propose the testing of the
following hypothesis:

H_8: The more interactions between clients and organization
members are typified by similarity of relevant demographic
characteristics the more total information the organiza-
tion will possess about its clients.

It is our expectation that similarity on demographic characteris-
tics will facilitate the exchange of information between the
organizational staff member and the client. In addition, it is
expected similarity on certain demographic characteristics will be
related to similar psychological traits, e.g., values, attitudes,
etc., and will lead to more empathy and understanding client and
staff. If our assumptions about similarity facilitating communication
and leading to increased understanding are valid, then it is expected
that those staff members most similar to their clients will possess
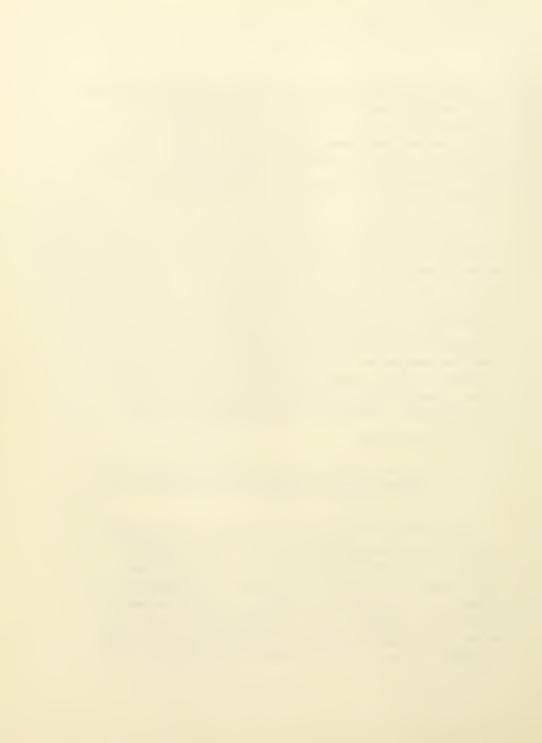the most information about the client.

Theorists and researchers in the area of interpersonal relations since Homans have understood that the conditions under which interaction takes place do influence the relationships between liking, similarity and interaction (Homans 1950). Much of the information collected by organization members is a function of their roles. Consequently, if comparisons of information held by individuals are made, it will be necessary to control the role.

Before ending this discussion of the interpersonal variables one further issue must be included. In the preceding discussions we have assumed that client orientation is positively related to the clients' evaluation of the health care organization. Rather than assume such a relationships holds, such an assumption should be part of an empirical testing of the mode. It is felt that the more information the organization possesses about its clients the more likely the organization is to be responsive to the total needs of the client. Further, the more responsive the organization to the client, the more favorably the client will evaluate the health care organization. Restated as a testable proposition we offer the following hypothesis:

H_9: The more information the organization possesses about clients, the more positively clients will evaluate the health care organization.

The measurement of the clients's evaluation of the health care organization might be accomplished using two slightly different measures -- satisfaction with the health care organization and effectiveness of the health care organization -- as perceived by clients. It is expected that both measures of client evaluation will be highly correlated. However, conceptually it is felt that the two measures may tap slightly different aspects of the clients' evaluation. Satisfaction with the health care organization is felt

to be based primarily in the clients' evaluation of the organization's
responsiveness to the 'total' needs of the client. That is, it may
be viewed as an 'absolute' and total evaluation of the system based
in the clients' idealized expectations of the health care
organization. On the other hand, the effectiveness measure is felt to
reflect the clients' evaluation of the health care organization's
ability to satisfy the clients' primary motivation for dealing with
that organization -- treatment of disease or illness. That is,
the effectiveness measure can be viewed as a 'partial' evaluation
of the health care system. Partial in the sense that treatment of
the disease may be only a part of the need satisfaction expected or
desired by the client when dealing with the health care organization.
In general, it is felt that the basic difference between satisfaction
evaluation and the effectiveness evaluation is in the manner in which
the organization 'processes' the client. Where the process of treating
the disease encompasses the "total" client, the organization will be
evaluated as both effective and satisfying. Where the treatment
is only disease symptom focused then the evaluation will likely be
effective organization but not very satisfying.

The immediately preceding statements are themselves hypotheses.
They were offered as illustrative of the possible distinctions
between various client evaluations of their health care organizations.
As part of any future research efforts should be made to test for
the relationships suggested in the preceding paragraph. More
importantly special attention should be given to discovering what
dimensions of health care organizations are related to positive
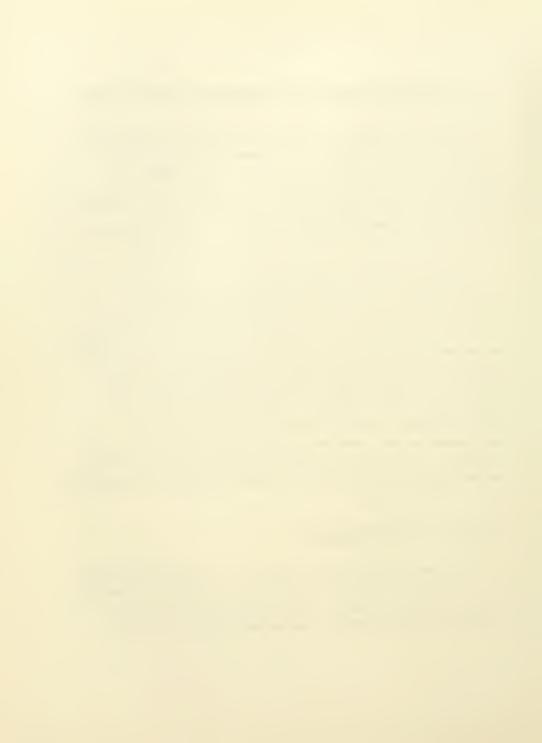and negative client evaluations.

ENVIRONMENTAL AND TECHNOLOGICAL CORRELATES OF CLIENT ORIENTATION

An important purpose of this paper is to identify characteristics of the health-care organization's environment and technology which are associated with its orientation toward clients. Rather than take a "shotgun" approach to this question, we have instead chosen two properties that we expect to be associated with client orientation, a) the nature of the available technology, i.e., how well developed it is, and b) the level of resources provided the organization.

We have chosen these variables because there is some support in the literature for the notion that they are now important explanatory variables, and because they vary widely over the range of health-care oganization. In limiting the scope of our investigation, we realize we may be leaving out other potentially relevant variables. Variations in the value systems and social institutions of different cultures, for example, impact on the way health-care organizations approach their clients (Bockoven, 1957; Rosen, 1963; Glaser, 1963). We are neglecting this set of variables on the grounds that the organizations we will study are all subject to the same broad cultural influences. For the rest, we plead the demands of analytic simplicity and the apparent relevance of these variables to practical implementation of the research findings.

The Nature of Available Technology

It's always difficult to make clear what one means by technology, but it is important to be as explicit as possible when one is comparing different levels of technology. When we talk about the "nature of available technology", we're talking primarily about the state of

development of a technology. To do this, we need to say something
about the concept of technology itself. Perrow (1965) offers
a definition of technology which we find useful, and worth repeating
here:

> "Technology is a technique or complex of techniques employed to
> alter 'materials' (human or non-human, mental or physical) in
> an anticipated manner. Several elaborations of this definition
> are needed:
>
> 1. Some knowledge of a nonrandom cause-and-effect relationship is
>   required, that is, the techniques lead to the performance of
>   acts which, for known or unknown reasons, cause a change
>   under specified conditions.
>
> 2. There is some system of feedback such that the consequences
>   of the acts can be assessed in a objective manner.
>
> 3. It is possible to secure repeated demonstrations of the
>   efficacy of the acts.
>
> 4. There is an acceptable, reasonable, and determinable range of
>   tolerance; that is, the proportion of suvvesses can be
>   estimated, and even though the proportion might be small,
>   it is judged high enough to continue the activity.
>
> 5. Finally, the techniques can be communicated sufficiently
>   that most persons with appropriate preliminary training
>   can be expected to master the techniques and perform them
>   under acceptable limits of tolerance.
>
> Note that equipment is not included in the definition; equipment
> is a tool of technology, but technology rests upon knowledge of
> the nature of the raw material." (1965, pp. 915-916)

Hickson, et. al., (1969) take another approach to refining the
concept of technology. They note the various meanings attached to the
word "technology" in the literature, and proceed to classify these
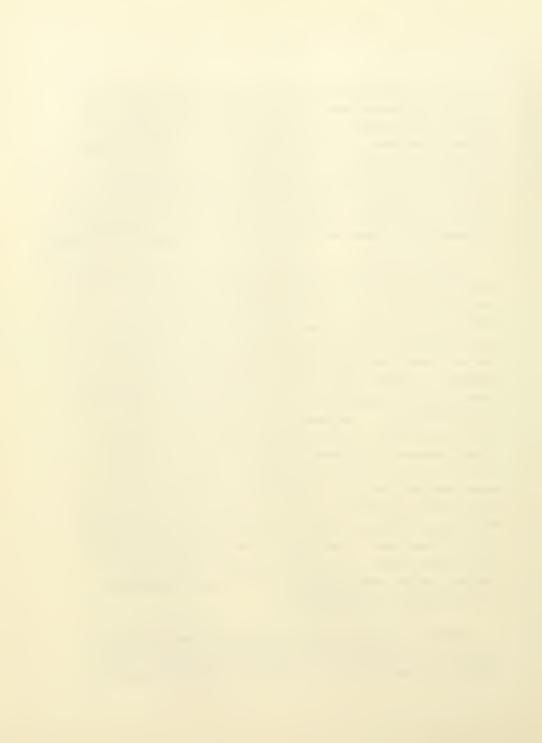meanings as follows:

  a) operations technology; which refers to the "equipping and
     sequencing of activities in the workflow." (p.380)
  b) materials technology; referring to "characteristics of the
     materials used in the workflow." (p.380)
  c) knowledge technology; which refers to "characteristics of the
     knowledge used in the workflow." (p.380)

It is not our intent in this paper to restrict the broad scope of these conceptualizations. Rather, we regard the refinements they present as useful criteria for judging the overall development of a particular technology, as broadly defined. Based on these definitions, we propose, as a first step, a rather simple split of health-care organizations on the technology dimension. Organizations which primarily treat mental illness will be characterized as relatively low technology institutions. Organizations primarily treating physical illnesses will be characterized as relatively high technology institutions.

The medical sociology literature provides some justification for distinguishing medical service organizations from psychiatric service organizations on a technology dimension. Freeman and Giovannoni (1969) point out that intuition and clinical experience play an important role in the diagnosis of all types of disorders, but that these factors play an especially important role in the evaluation of mental illness. They also point out that medical and psychiatric practitioners differ in the models of health to which they may compare patients. The homeostatic model of biological man is well established. On the other hand, there are wide variations between theories of "integrated personality", which are reflected in a wide variety of therapeutic techniques. Goffman (1961) also argues that there are several difficulties in applying the medical service model to psychiatric practice in large inpatient institutions. Perrow concurs, and states flatly, "There is no appropriate treatment technology available for the large public mental hospital." (1965, p. 924). This certainly is in contrast to the large public general hospital. Perrow (1965) concludes that differences in technology are the root cause of this contract.

Further, it seems reasonable to assume that these differences in technology are reflected in the organization's orientation to its clients. The popular press has focused its criticism of health-care

organization on the issue of dehumanizing treatment of clients, and their failure to treat the "total person". This charge has been levelled against large scale psychiatric institutions as well as medical ones. However, it is our view that, for psychiatric institutions, these failures are primarily a result of inadequate funding. While for medical-care organizations, the demands of technological skills as well as inadequate funding contribute to the present situation. A major theme in the nursing literature concerns the conflicting demands on nurses to be technically proficient, while at the same time providing patients with "tender loving care". In the case of the doctor, Robert N. Wilson noted "the very technical proficiency on which his efforts rest may be a barrier to sympathetic understanding of the patient as a human being; his advanced specalization in modern medicine may make him unable or unwilling to regard the whole patient; his range of concerns may be narrowed to the patient as organism with slight attention to the patient as family member, worker, full social being." (1963, p. 283, emphasis is added). Perrow concurs by observing that "new technologies, such as have been developed in physical medicine, ... seem to violate our conceptions of the uniqueness, integrity, and unity of each individual." (1965, p. 915)

On the other hand, the rise of milieu therapy (Jones, 1953) in psychiatric institutions attests to a greater concern with the social environment of patients. Goffman highlights this difference, when he notes that in the case of mental institutions, "All of the patients actions, feelings, and thoughts - past, present, and predicted - are officially usable by the therapist in diagnosis and prescription ... None of the patient's business, then, is none of the psychiatrists business; nothing ought to be held back from the psychiatrist as irrelevant to his job." (1961, p. 358) He further notes that this

relationship is unique among service professionals.

In conclusion, this discussion has argued that psychiatric and medical health-care organizations are to be differentiated on the basis of differences in the development of the technologies available to them. Further, we have argued that these technological differences are directly related to differences in client orientation.
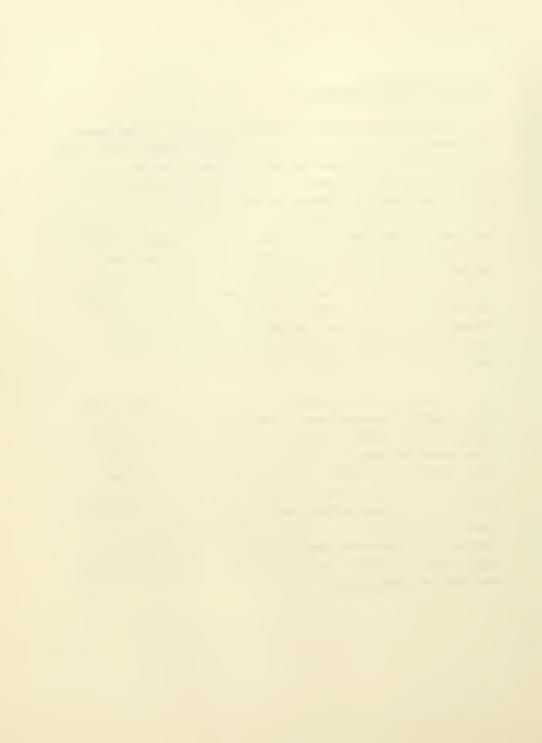
It will be noted, our distinction between medical and psychiatric "technologies" is quite simplistic. However, utilizing the dimensions and definitions proposed by Perrow (1965) and Hickson, et. al. (1969), distinctions can be made concerning the nature of available technology within various areas of medical specialities, e.g. dermatology versus cardiovascular surgery. However, we will not discuss this beyond noting such a potential at this point.

The Level of Available Resources

To argue that the amount of resources available to a health-care organization is related to its client orientation is simple, direct and straightforward. It is almost certainly a truism to say that organizations must have resources in order to carry out their tasks. In the present context, if medical service organizations are to advance beyond a narrow focus on disease treatment to a wider concern with the "total patient", they must have the resources available to do so. If psychiatric institutions are to provide treatment rather than custodial service, they will require additional resources. At the present time, psychiatric care thay may be deemed generally desirable and sufficient is largely restricted to small, elite institutions (Perrow, 1965). This concern for providing adequate resources is reflected in most recent, thoughtful analyses of the contemporary health-care scene (i.e., Folsom, 1970; Somers, 1971).

In general, then, it is expected that health-care organizations with a relatively adequate level of resources will be better able to implement a wide-ranging orientation toward its clients. There are a wide variety of types of resources that are important to health-care organizations. We suggest three general areas of resources which are especially relevant to the health-care setting; physical facilities (i.e. space available, number of beds, number of treatment rooms), staff resources (i.e., number of doctors and nurses, availability of paramedical personnel, number of social workers or client service representatives), and financial resources (for capital and operating expenditures).

It should be pointed out that some would argue that the level
of available resources is strongly related to organizational size.
We are hesitant to make such an assumption for two reasons. One
is that it is not at all obvious that the size of a health-care
organization is necessairly related to level of resources as
we have defined it. Granted empirical research on organizational
size has used the same measures we propose -- physical facilities,
and staff resources -- as indicators of organizational size. To
that extent we will measure size, however, the connotations implicit
in use of "size" have an ambiguous flavor suggesting more than
level of resources. Secondly, we are concerned with the level of
resources as they related to client treatment potential. Thus,
our concern with level of resources is with a relative rather than
absolute measure, that is the ratio of resources to patients. Such
a measure may be significantly different from organizational size.
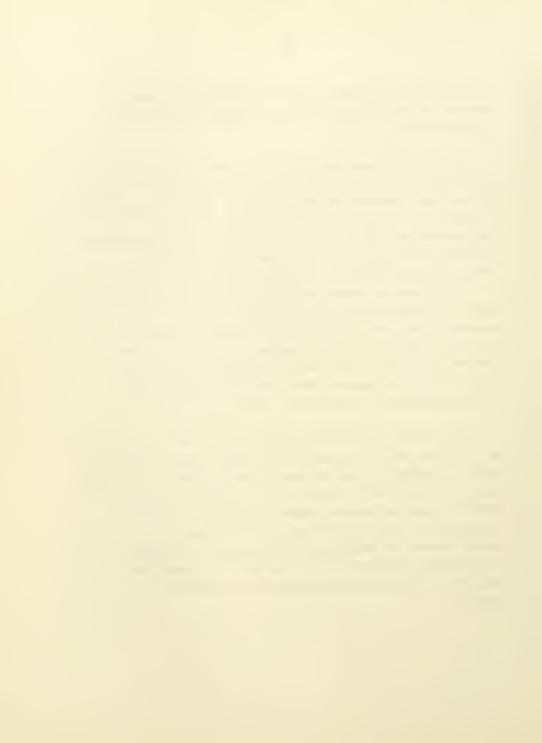
SUMMARY AND IMPLICATIONS

The implications for such a research endeavor have been alluded
to throughout this paper. As has been stated earlier, the demand
for health care services is rising and the expectations of patients
concerning health care is shifting. As Somers and other point out,
there is an increasing demand on the part of clients for the health
care system to be more responsive to their needs. By and large, our
culture is one that places a great emphasis on individuality and the
inalienable rights of individuals. This cultural value system has
implications for the way our society views 'appropriate' treatment
of the mentally of physically ill. For example, Bockoven (1957)
dates the concern with humane treatment to the French Revolution,
and the concurrent increasing emphasis on individuality throughout
Europe in the early nineteenth century. Also Rosen (1963) notes

the importance of these same contributing factors to a growing awareness of social factors in physical illness and the practice of "social medicine".
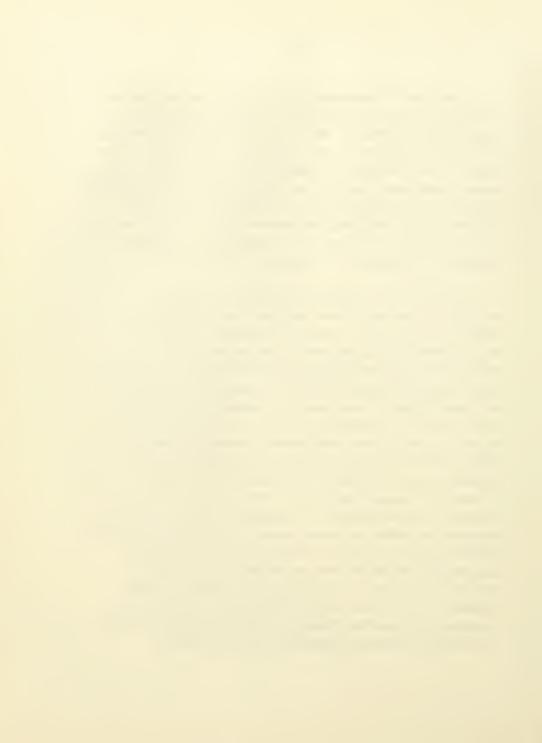
Parsons (1960) observes that organizations are constrained in the activities they may undertake, and are directed toward fulfilling the functions prescribed for them by society. That this relationship is imperfect and that organizations do not play a passive role in this process goes without saying. Still we feel that organizations, expecially health care organizations, are subject to important influence by the prevailing system of cultural values. Examples of this influence are widespread in the literature of organizations. The often expressed concern with the "quality" of health-care in the popular media indicates that these influences are operative in the organizations we will be studying. So too is the evidence that doctors and other health-care professionals on a wide scale are reevaluating and changing their views of the practitioner's role in the delivery of health-care. (Wilson, 1963, Somers, 1971).

As we view it, the pressures being placed on health care systems are to a large extent on outgrowth of the clients' demands that the health care organization be more aware of and responsive to its client system. We argue that in order for a health care organization to effectively meet the client's demands it is necessary for the organization to effectively monitor its client system. We further suggest that organization's effectiveness in monitoring of its patient environment will be expressed in the amount and scope of the information the organization possesses about is patients.

By utilizing a multi-dimensional approach in our analysis we will potentially have the opportunity to speak to consequences of multiple change strategies. That is, we can suggest the difference between the consequences of changes in structural dimensions versus changes in the distribution of demographic characteristics of staff members. Additionally, we will have the potential to specify different implications for organizations with low resource levels versus organizations with relatively high resource levels. Finally, we will also be in a position to speak to the consequences of different structures and situations for different health care staff roles.

Our selection of 'independent' variables -- structure, similarity or demographic characteristics, nature of available technology, and level of resources -- is directly related to you goal of undertaking applied research. As we have stated our intention is to specify change strategies for health care organiza- tions to meet the demands of clients. An additional objective is to be able to specify rather immediate changes with relatively immediate positive consequences for client orientation and quality of care. It is felt that organizational structure and the demo- graphic characteristics are variables which organizations have significant control over and are variables which are amiable to relatively immediate modification. Thus, the focus on these variables offers the potential for suggesting organizational change strategies in response to certain aspects of the "health care crisis". Likewise the level of available resources is relevant to both organizational and public policy as it offers on the one hand a prescription for maximizing client orientation given a resource constraint. On the other hand, inclusion of this variable offers a potential for specifying changes in resource allocation to public policy-makers interested in maximizing client orientation.
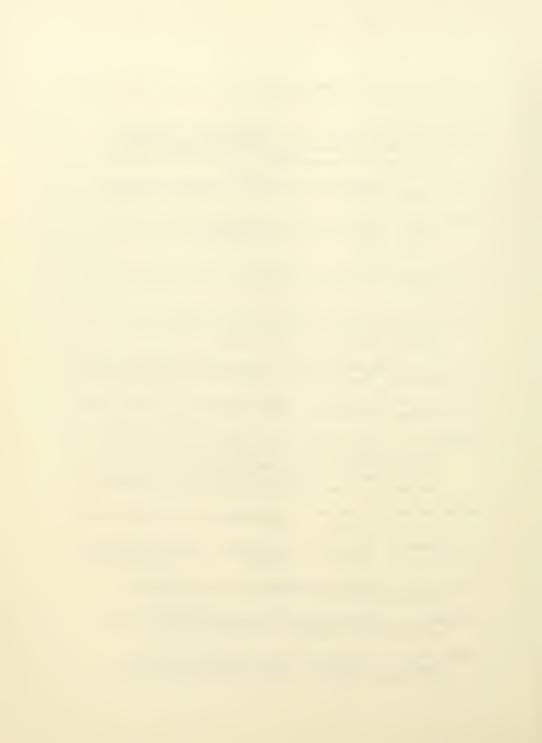
The problems and questions about health organizations which this paper addresses are felt to be very important. Further the multi-dimensional approach we propose to utilize is likewise important. This application of an integrated and comprehensive research focus to the examination of health care systems is felt to be of tremendous value to the understanding of not just health care organizations but also to achieving a more complete knowledge about behavior in and of organizations in the more general sense.

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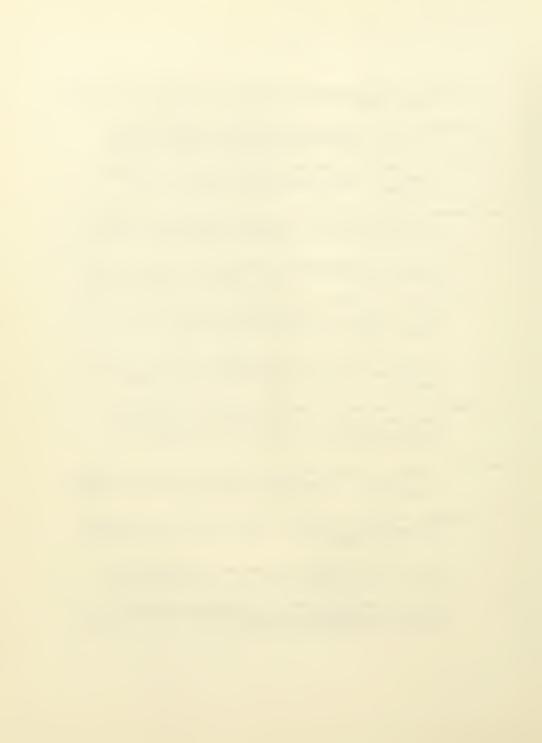   Science Quarterly, Vol. 14, September 1969.

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